

HS2

Phase 2b (Crewe – Manchester) - Control of Environmental Impacts

Peter Miller FIEMA – Environment Director, HS2 Ltd

Expert Environment Witness for the Promoter

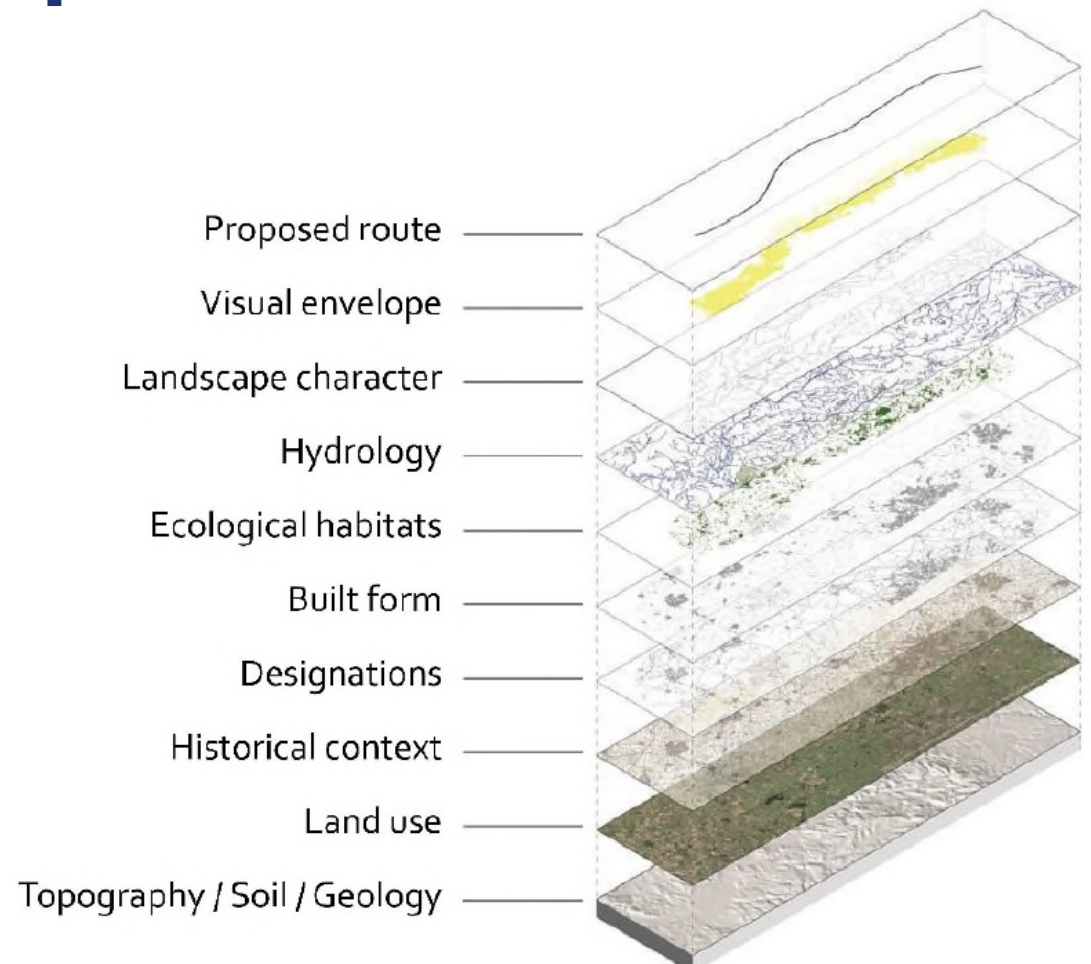
Outline of Presentation

1. Principles of HS2's Design and Environmental Assessment
2. The legal framework
3. Environmental Minimum Requirements
4. HS2's Environmental Policy & Vision

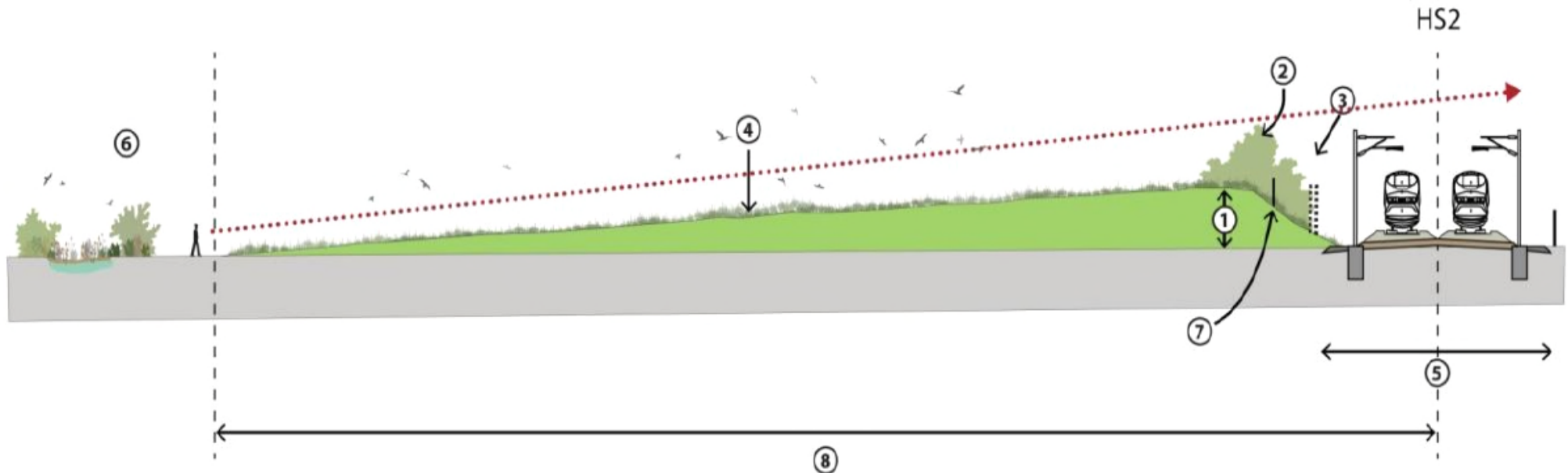
Principles of HS2's Design and Environmental Assessment

Design Principles: People, Place, Time

The design of the Proposed Scheme has been developed over a period of time and in line with the principles of the HS2 Design Vision.



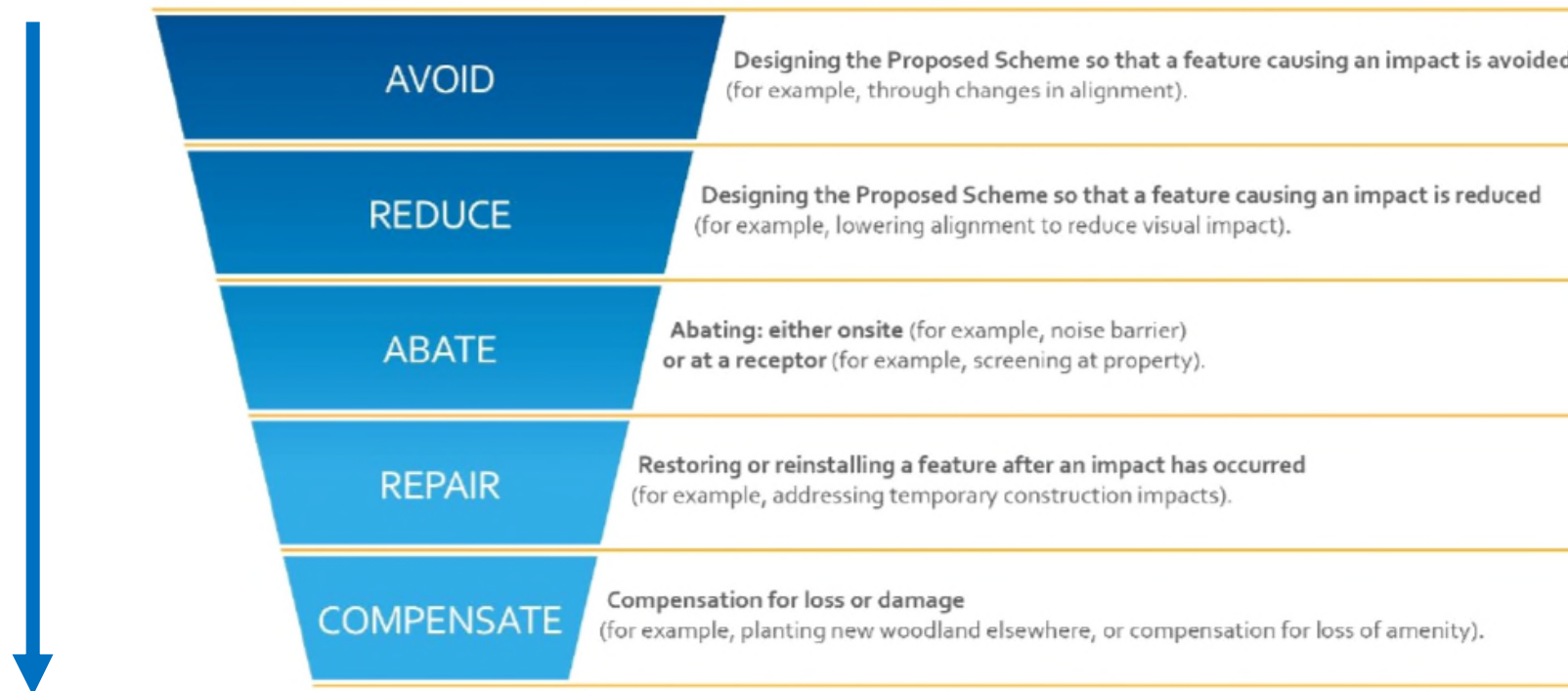
Design Principle: Holistic Design Approach



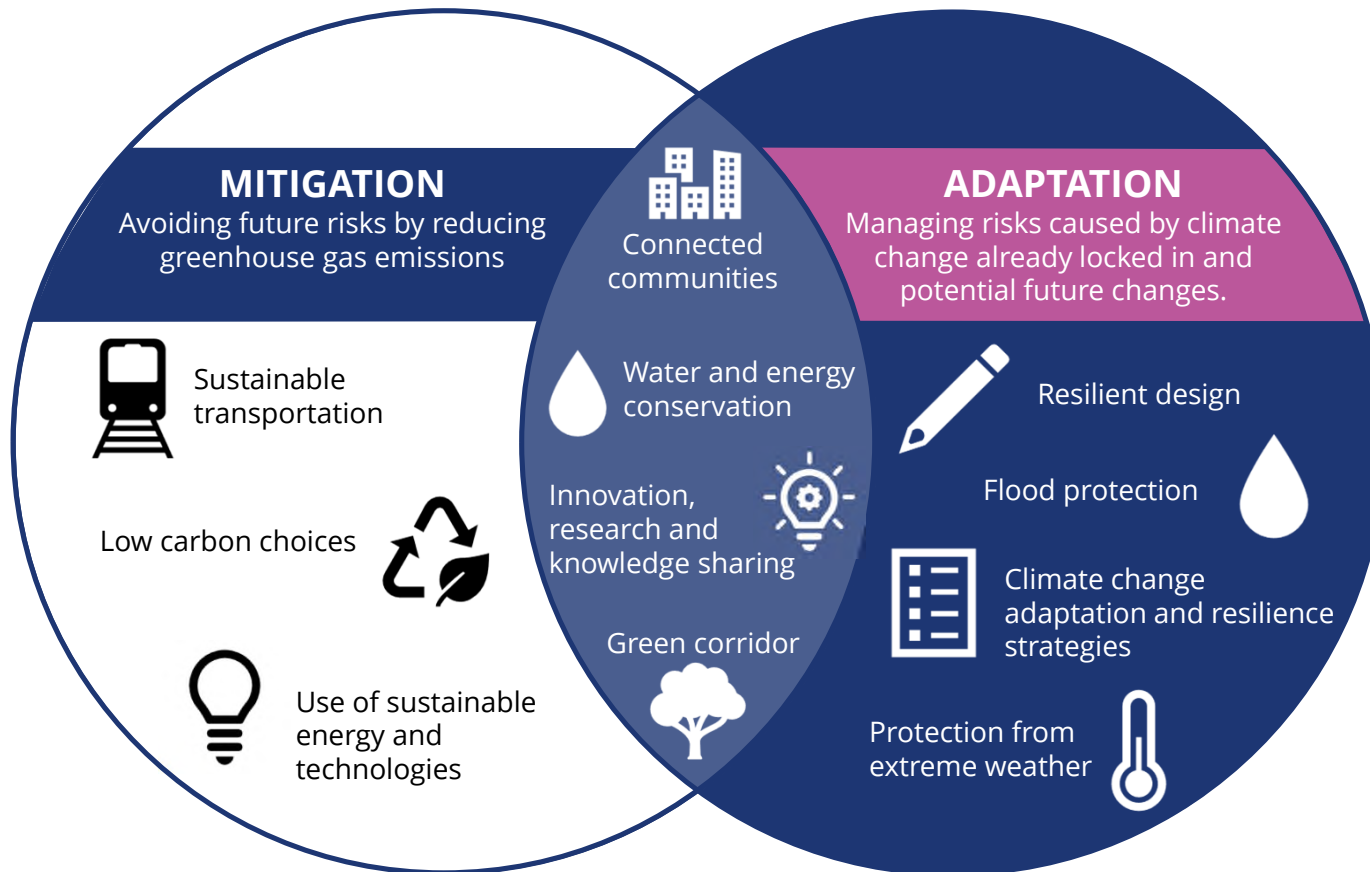
1. Landscape earthworks designed to screen the railway.
2. Screen planting to supplement earthworks and fit with local landscape.
3. Earthworks designed to mitigate operational noise.
4. Landscape earthworks designed to be returned to agriculture use.
5. Width of railway corridor designed to a minimum requirement.
6. Mitigation design with multiple functionality (ecology, heritage, landscape, hydrology).
7. Boundary fence visually concealed behind landscape earthworks.
8. Scheme designed to restore majority of land to previous use.

The Mitigation Hierarchy

The mitigation hierarchy is applied at each stage of the design in order to reduce the effects of the scheme on the environment.



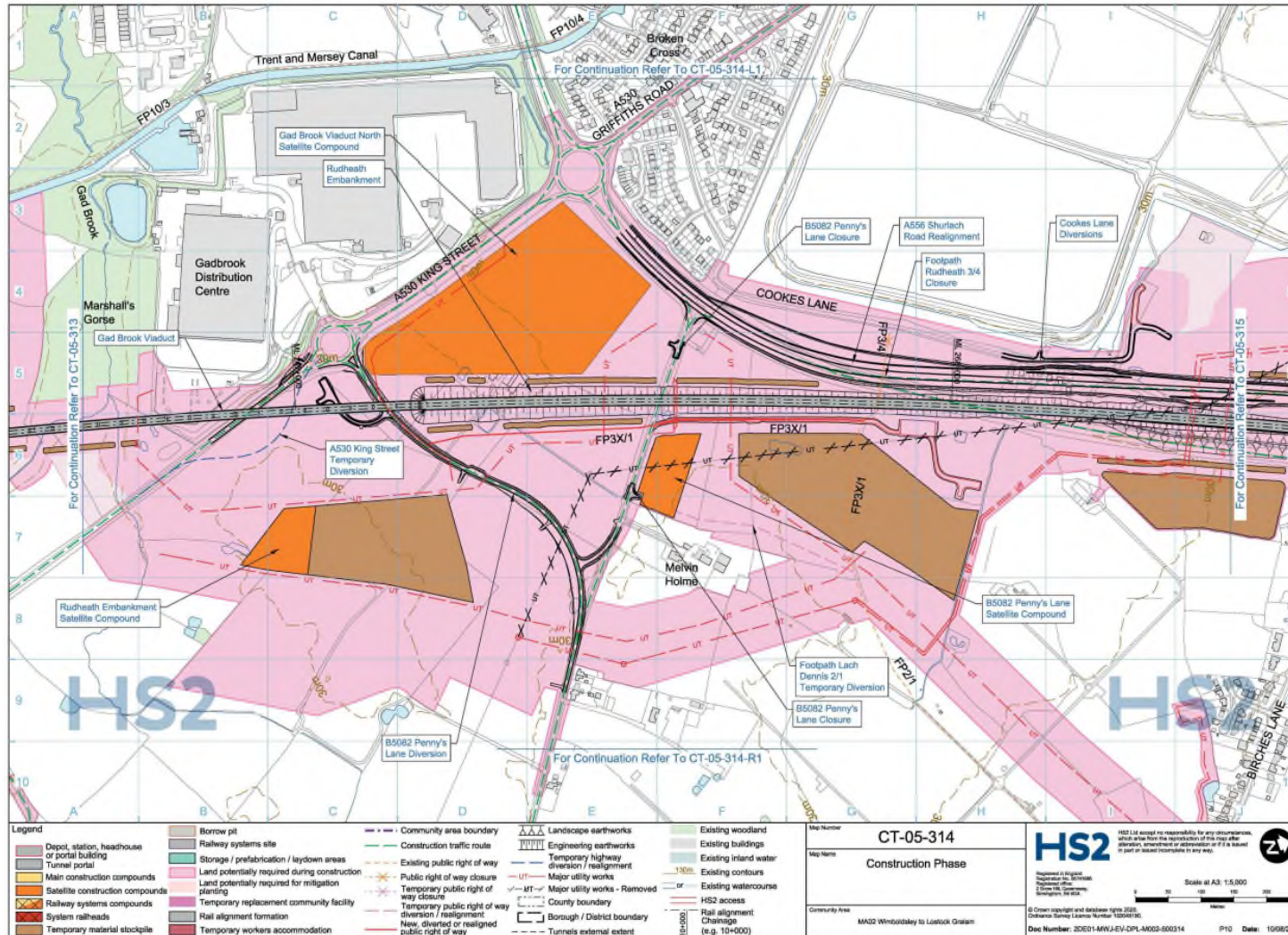
Climate Change: Mitigation & Adaptation



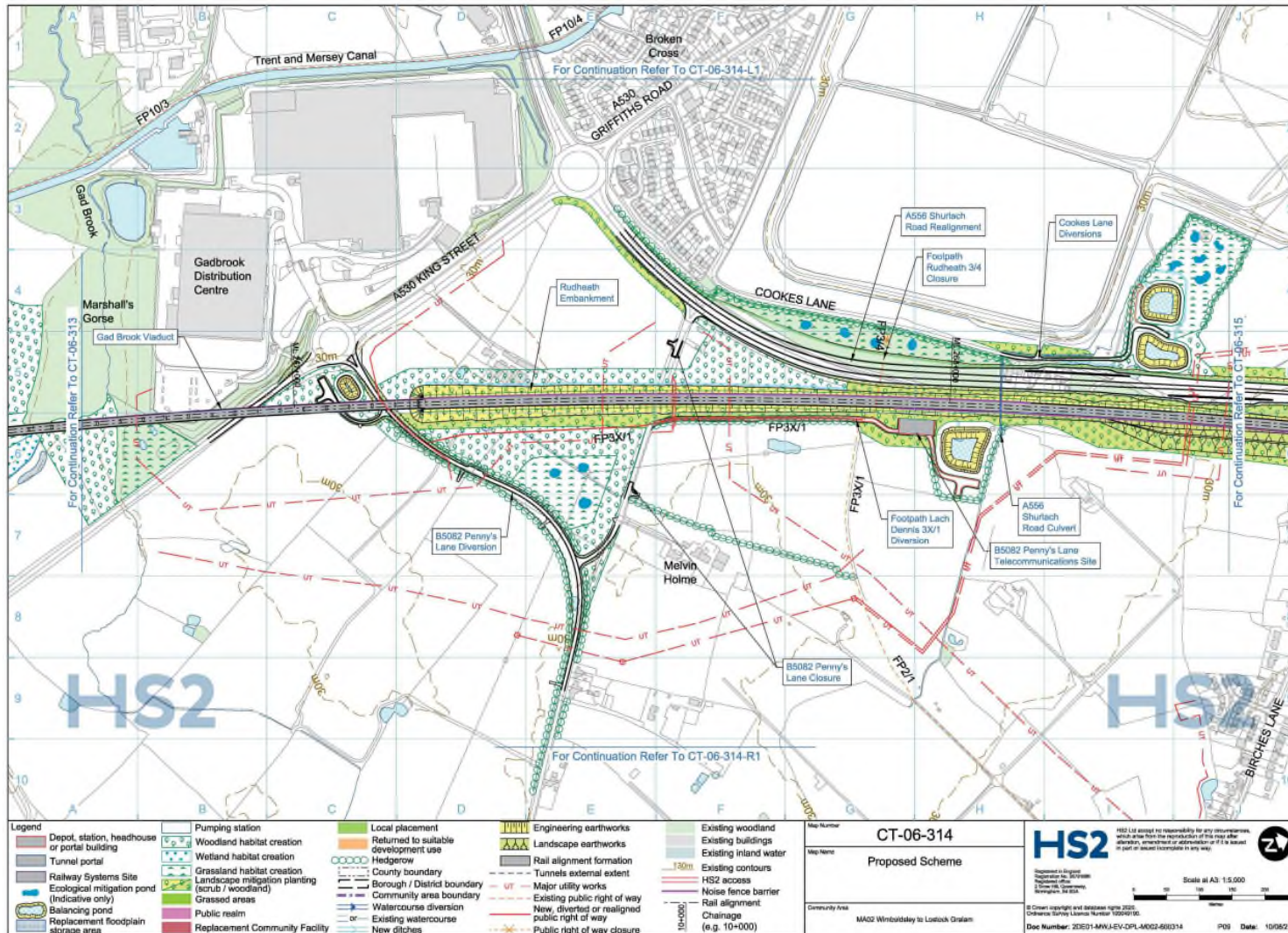
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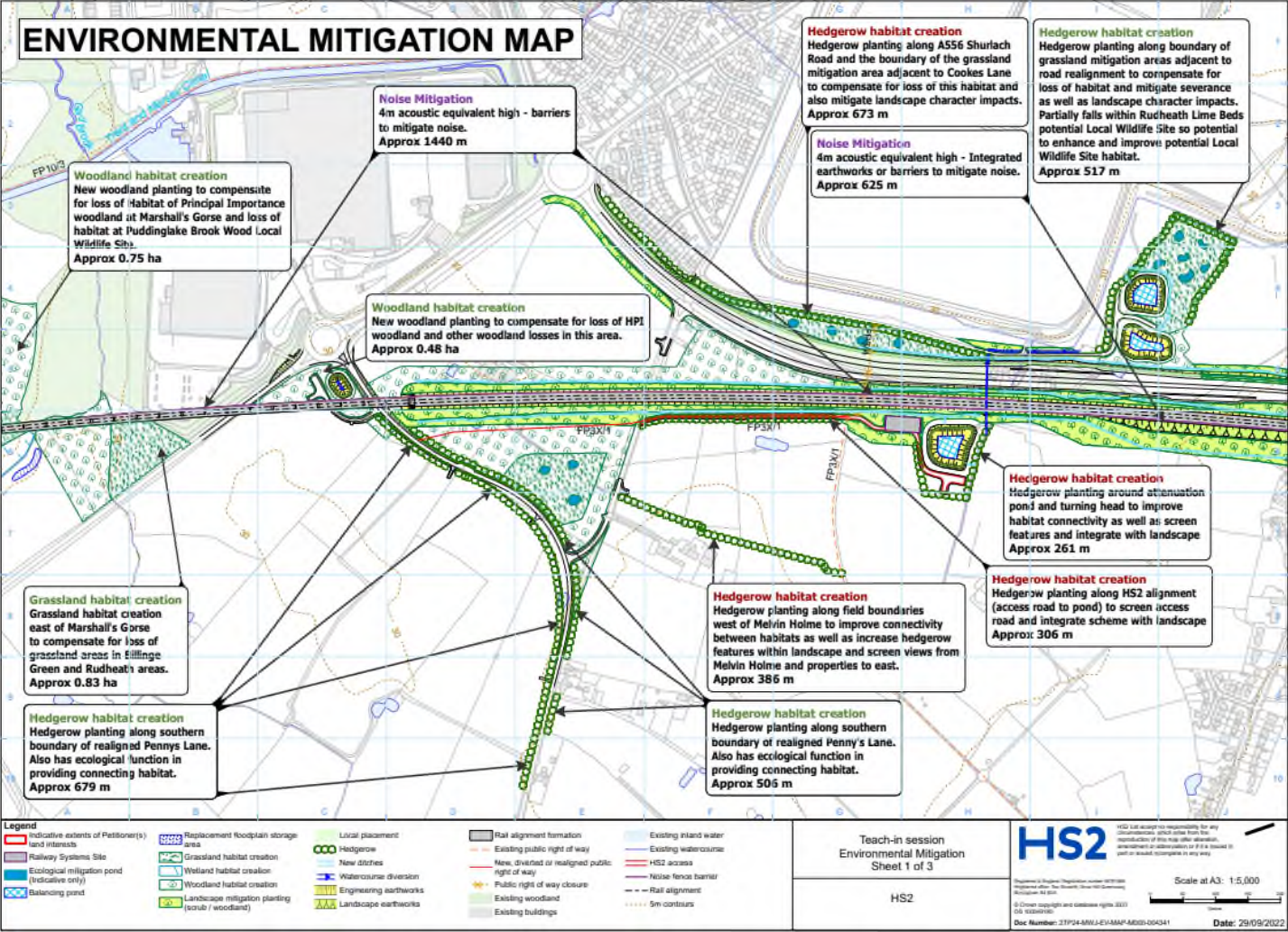
Scope of Works: Construction (CT05) Maps



Scope of Works: Operation (CT06) Maps



Environmental Mitigation Map Exhibit Example



Route Flythrough Screenshot



Before and After – HS1 Boxley Tunnel



The requirement of the Environmental Statements

- The Proposed Scheme has been subject to an environmental impact assessment and public consultation.
- Standing Order 27A requires a Bill authorising works and any additional provisions to the Bill to be accompanied by an Environmental Statement conforming to requirements in the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.
- The Environmental Statement has been prepared by those with sufficient expertise and in accordance with the accepted best practice methodologies recommended by a range of UK institutional bodies.
- Standing Order 224A sets a timescale for the public to comment on an Environmental Statement and for an independent assessor to report to the House on comments both relating to the original ES and :
 - An Supplementary Environmental Statement (SES), or
 - An Additional Provision Environmental Statement (AP ES).

The function of the Environmental Statements

- The purpose of the Environmental Statement is to:
 - Describe the Proposed Scheme (both in construction and operation);
 - Describe reasonable alternatives that have been considered by the promoter;
 - Report the likely significant effects on people and the environment; and
 - Identify and propose suitable mitigation and compensation measures for those effects.
- The Environmental Statement and Supplementary Environmental Statement 1 (SES1) and Additional Provision 1 Environmental Statement (AP1 ES) have been determined to be compliant by the Standing Orders Committee.
- Clause 18 of the Bill provides deemed planning permission to be granted under the Town and Country Planning Act 1990 for works authorised by the Act, and in the case of non-scheduled works, only if they have been environmentally assessed.

Engagement: Consultation

IP G1

Consultation and engagement prior to Bill deposit

- 6 Route refinement and property information events (5386 attendees).
- 7 Working Draft EIA & EQIA Scope and Methodology information events (1282 attendees).
- 14 Western Leg design refinement information events (680 attendees).
- 16 Bill deposit consultation information events (571 attendees).



Consultation and engagement post Bill deposit (ongoing)

- Pre-AP1 deposit engagement information events and webinars (373 attendees).

Consultation of the Phase 2b Environmental Statement

- 6,391 individual responses were received from the general public and stakeholders.



Future Engagement

After Royal Assent, further design work will be undertaken to develop the detail of the hybrid Bill design.

HS2 will engage with stakeholders and the public in the design development process.

- On **key design elements**, such as; main viaducts and maintenance bases in sensitive areas, the engagement exercise is likely to focus on engaging the public local to the infrastructure.
- On **common design elements**, such as; road bridges and noise barriers, the Promoter will undertake wider public engagement on design development for common design elements, with associated local and route-wide publicity.
- On **stations**, the public engagement is likely to be an open engagement exercise, with local public exhibitions, leaflet drops, interactive on-line materials and related publicity.

Also engagement to help ensure that design development complies with any **Undertakings and Assurances** agreed with various stakeholders during the hybrid Bill process.

The Legal Framework

The Legal Framework

Controls within the Bill

- Scope of works (Sch 1 & 2)
- Planning Conditions (Sch 17)
- Bringing into use scheduled works (Sch 17)
- Restoration of construction sites (Sch 17)
- Restoration of land following temporary possession and use (Sch 15)
- Construction of replacement buildings (Clause 57)
- Protective provisions (Sch 32)
- Highways approvals (Sch 5)

Controls outside the Bill

Environmental Minimum Requirements

- General Principles
- Code of Construction Practice (Information paper D3)
- Planning Memorandum
- Heritage Memorandum
- Environmental Memorandum
- Undertaking and Assurances (Information Paper B5)

Existing Legislation

Unless expressly or impliedly disapplied or modified by the Bill, existing legislation will apply, including:

- Control of Pollution Act 1974
- Conservation of Habitats and Species Regulations 2017
- The Environmental Permitting (England and Wales) Regulations 2016

Planning Conditions (Schedule 17)

- Bill provides deemed planning permission subject to conditions set out in Schedule 17.
- Schedule 17 includes conditions requiring various matters to be subject to approval by local planning authority.
- Extent and scope of approvals depends on whether local planning authority becomes a “qualifying authority” (through signing the Planning Memorandum).
- In order to facilitate requests for approval under Schedule 17:
 - The Planning Memorandum sets out what is expected of the nominated undertaker and planning authorities that choose to become ‘qualifying authorities’.
 - Upon signing the Memorandum, qualifying authorities have a wider range of planning controls and are bound by obligations of the Memorandum. Equally, the nominated undertaker must comply with its obligations.
- Planning authorities must have regard to the Secretary of State's statutory guidance.
- Planning authorities must also have regard to the Environmental Minimum Requirements.

Controls within the Bill	Controls outside of the Bill	Existing legislation
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Planning Conditions (Schedule 17)

Planning Matters	Paragraph Number	Information Paper
Plans and Specifications	2 & 3	E1 Control of environmental impacts & B2 main provisions of the planning regime
Construction arrangements	4 & 5(1)	E1 Control of environmental impacts & B2 main provisions of the planning regime
Construction camps	4	E1 Control of environmental impacts & B2 main provisions of the planning regime
Road transport	6	E1 Control of environmental impacts & B2 main provisions of the planning regime
Borrow pits	7	E1 Control of environmental impacts & D12 borrow pits
Restoration of borrow pits	8	E1 Control of environmental impacts & D12 borrow pits
Bringing into use	9	E1 Control of environmental impacts & B2 main provisions of the planning regime
Restoration of construction sites	12	E1 Control of environmental impacts & D12 Borrow Pits

Controls within the Bill	Controls outside of the Bill	Existing legislation
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Conditions Relating to Building Works (Schedule 17, Paragraph 2)

IP E1

IP B2

- The relevant planning authority may, on approving a plan or specification, specify any respect in which it requires additional details of the building works to be submitted for approval.
- If the relevant planning authority is a qualifying authority, it may only refuse to approve plans or specifications relating to building works on the grounds that:
 - a) The design or external appearance of the building works ought to be modified –
 - i. to preserve the local environment or local amenity,
 - ii. to prevent or reduce prejudicial effects on road safety or on the free flow of traffic in the local area, or
 - iii. to preserve a site of archaeological or historic interest or nature conservation value,and is reasonably capable of being so modified, or
 - b) The development ought to, and could reasonably, be carried out elsewhere within the development's permitted limits.

Controls within the Bill

Controls outside of the Bill

Existing legislation

Example of a Phase One Schedule 17 Consent

IP D1



Colne Valley Viaduct

Controls within the Bill

Controls outside of the Bill

Existing legislation

Planning Conditions (Schedule 17)

Schedule 17 – Paragraph 16

Each planning authority must be provided with a document setting out the proposed scheme and indicative programme for Schedule 17 consents

Note: example opposite is a Phase 2a example for illustration only

Request for Approval	2021				2022				2023				2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Pre-application period									Determination period											
Early Environmental Works																				
Lorry Routes																				
Early Civils Works Package 1																				
Early Civils Works Package 2																				
Advance Civils Works																				
Stableford South Embankment																				
Swynnerton Footpath 10 Accommodation Underbridge																				
Stableford North Embankment																				
Meece Brook Viaduct																				
Meece Embankment																				
Whitmore South Cutting																				
Whitmore Heath Tunnel																				
Whitmore North Cutting																				
Lea South Embankment																				
Whitmore Wood Accommodation Underbridge																				
Whitmore North ATS																				
River Lea Viaduct																				
Netherset Hey Borrow Pit																				
Lea north Embankment																				
Manor Road Overbridge																				
Madeley Cutting																				

Controls within the Bill

Controls outside of the Bill

Existing legislation

Restoration of land following temporary possession and use

Schedule 15 provides for the temporary possession of land for Phase 2b purposes. Once those purposes have been fulfilled, the nominated undertaker must return the land to the owner within twelve months, restored to its former condition or to a condition agreed by the owners of the land and the relevant planning authority.

Controls within the Bill

Controls outside of the Bill

Existing legislation

Protective Provisions (Schedule 32)

- Schedule 32 contains provisions for the protection of statutory undertakers. For example:
 - Part 1 seeks to minimise disruption to traffic where reasonably practicable. Highway authorities will have rights of approval over various matters concerning works affecting highways.
 - Part 4 requires the nominated undertaker to submit plans for any specified works which may affect drainage, flood storage or defence, the flow or purity of water and conservation of water resources, to the Environment Agency or Local Drainage Authorities for approval.
 - Part 5 includes protective clauses in favour of the Canal & River Trust including limiting the compulsory acquisition of Trust land to only what is reasonably necessary for the Scheme.

Controls within the Bill

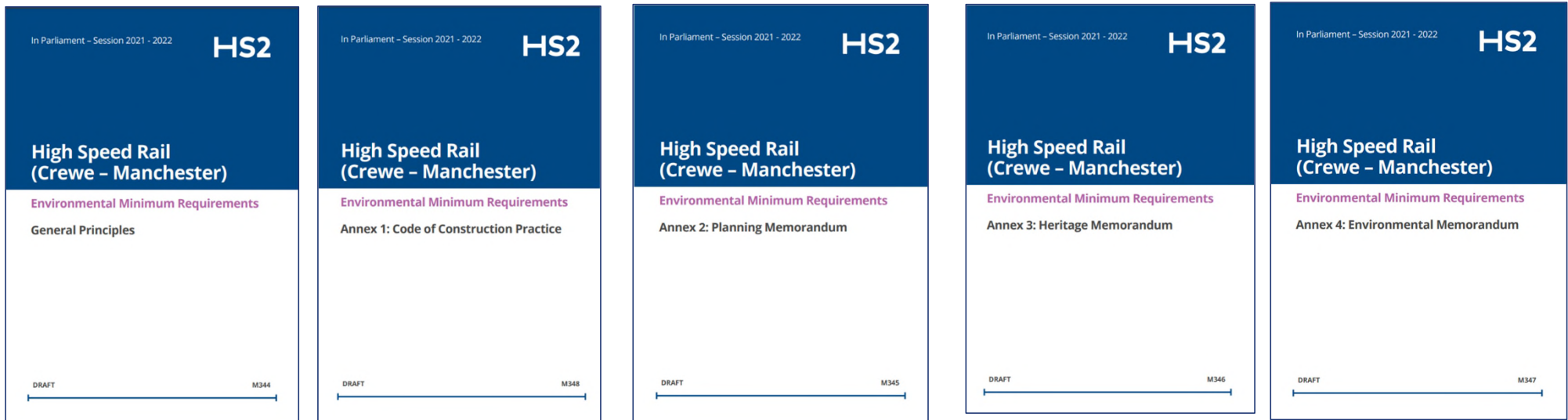
Controls outside of the Bill

Existing legislation

The Environmental Minimum Requirements

Environmental Minimum Requirements

General Principles plus four annexes & Register of Undertakings and Assurances



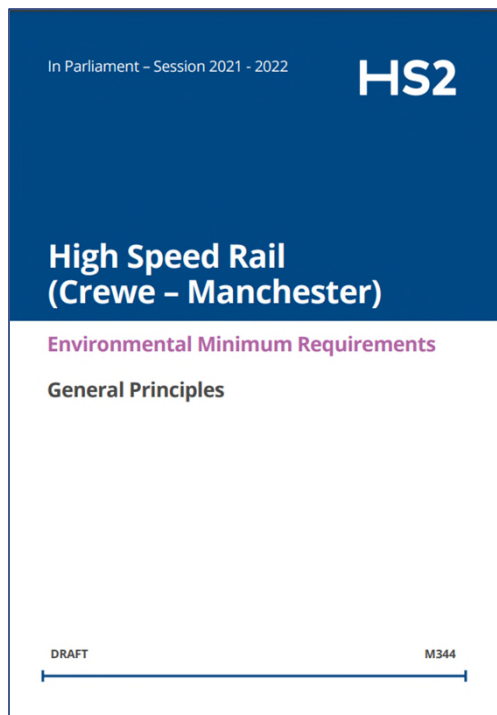
Controls within the Bill

Controls outside of the Bill

Existing legislation

Environmental Minimum Requirements

General Principles



- It is the intention of the Secretary of State to carry out the project so that its impact does not exceed the assessment in the ES.
- The Secretary of State will require the nominated undertaker to adhere to the arrangements provided for in the Environmental Minimum Requirements (EMRs) in designing and constructing Phase 2b (Crewe – Manchester) of High Speed Two Works.
- The contractors will be contractually bound to comply with the Environmental Minimum Requirements.

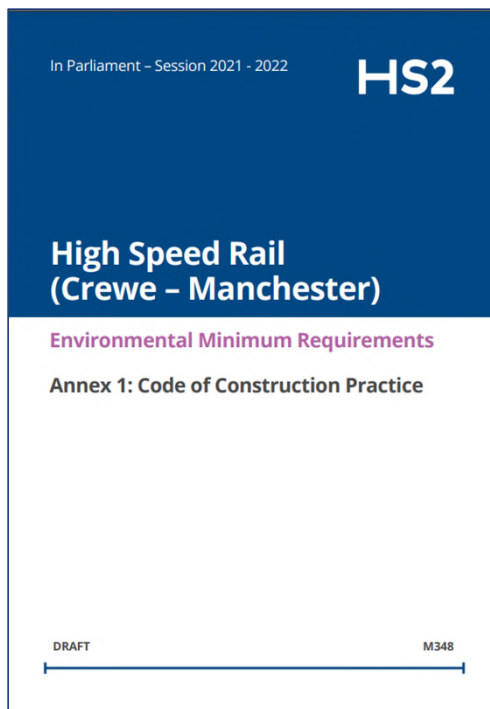
Controls within the Bill

Controls outside of the Bill

Existing legislation

Environmental Minimum Requirements

Code of Construction Practice



- Lead contractors and sub-contractors will be contractually obliged to comply with the Code of Construction Practice.
- Nominated undertaker and contractors will be contractually obliged to have an Environmental Management System (certified to ISO14001).

Controls within the Bill

Controls outside of the Bill

Existing legislation

Environmental Minimum Requirements

Code of Construction Practice Annex 2: Local Environmental Management Plans



- Code of Construction Practice has a requirement for Local Environmental Management Plans.
- Local Environmental Management Plans build on general environmental requirements of the Code of Construction Practice and set out specific measures within each local authority area.

Code of Construction Practice Annex 3: Example of a Section 61 Consent

Annex 3: Example application form for Section 61 consent

CONTROL OF POLLUTION ACT 1974
EXAMPLE APPLICATION FORM FOR SECTION 61 CONSENT
 To be developed further (with explanatory notes) in consultation with the relevant local authorities

Submission no:	
Local Authority Reference:	

To the¹

I/WE HEREBY MAKE APPLICATION for prior consent in respect of works to be carried out on the [construction] site(s) specified below, under Section 61 of the Control of Pollution Act 1974.

Signed Date.....

Name and address of applicant
(in block letters please)

.....

Telephone no:.....

email:

¹ Insert name of Local Authority.

Where application made by a Company the signature should be of a Director or the Company Secretary and the address should be the Company's registered office.

(Note: Supplementary sheets should be used for fuller descriptions and additional information as required.)

1.	Address or location of proposed works	
2.	Name and address of main contractor Telephone no.	
3.	Particulars of works to be carried out	
4.	Methods to be used in each stage of development	

- The nominated undertaker's contractors will seek to obtain consents from the relevant local authorities under Section 61 of the Control of Pollution Act.

Controls within the Bill

Controls outside of the Bill

Existing legislation

Environmental Minimum Requirements

Code of Construction Practice - requirements

General requirements

Examples:

- Lead contractors to sign up to considerate constructors scheme
- Core working hours
- Community engagement framework
- Pollution incident control measures
- Carbon Management Plan requirement



Site-specific requirements

Examples:

- Dust and air quality management – covering stockpiles
- Control of invasive and non-native species
- Protection of trees
- Noise and vibration – best practicable means
- Workforce travel plans

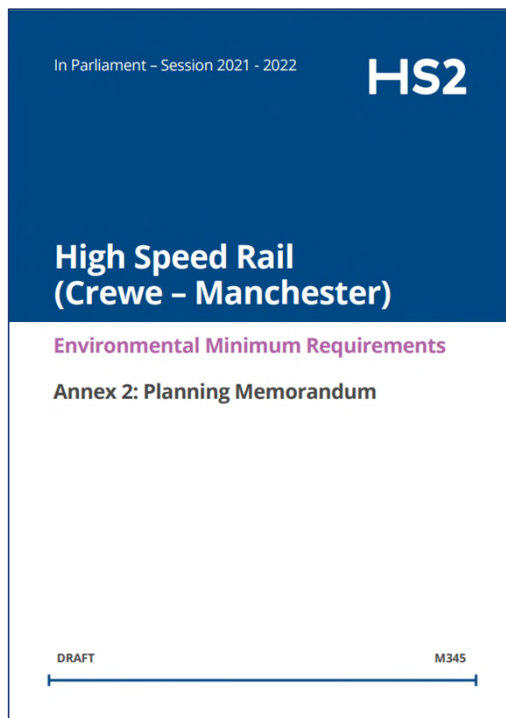
Controls within the Bill

Controls outside of the Bill

Existing legislation

Environmental Minimum Requirements

Planning Memorandum



- Sets out undertakings and responsibilities of “qualifying authorities”.
- The qualifying authorities and nominated undertaker sit on a Planning Forum (established in 2021), which is designed to ensure the effective and efficient implementation of the planning regime.

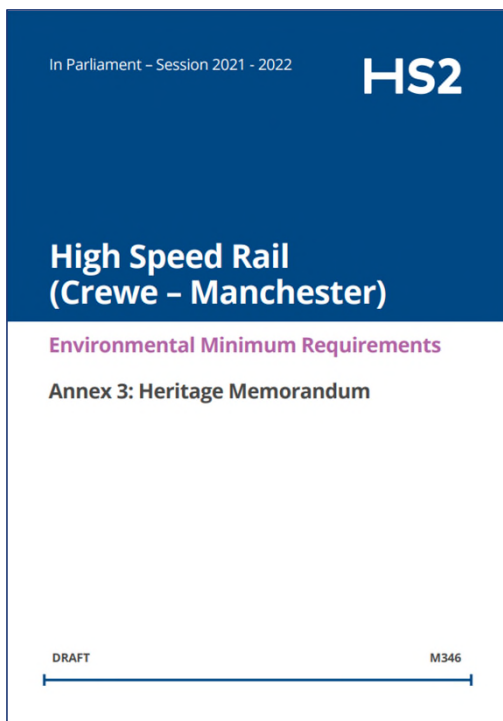
Controls within the Bill

Controls outside of the Bill

Existing legislation

Environmental Minimum Requirements

Heritage Memorandum



- Sets out how the historic environment (including heritage assets and their setting) will be addressed during the design and construction (including role of Heritage Agreements).
- A specialist heritage sub-group to the planning forum has been set up (February 2022) to provide the framework for effective engagement and information sharing on high-level technical matters.

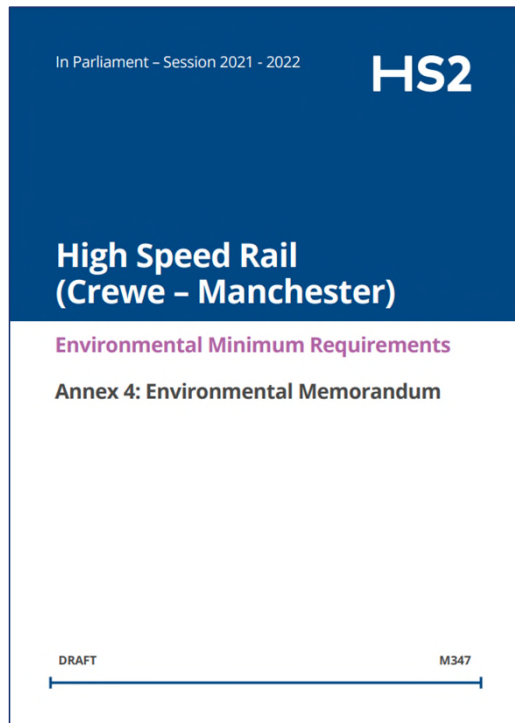
Controls within the Bill

Controls outside of the Bill

Existing legislation

Environmental Minimum Requirements

Environmental Memorandum



- Relates to the environmental aspects of the design and construction.
- National Environmental Forum comprising the Agencies (Historic England, Environment Agency and Natural England) and representatives from relevant Government departments, including the Forestry Commission.
- Also engage with Scottish Agencies (Historic Environment Scotland, Scottish Environment Protection Agency and NatureScot) as well as Scottish Government departments.

Controls within the Bill

Controls outside of the Bill

Existing legislation

Environmental Minimum Requirements

IP E1

Undertakings and Assurances (U&As)

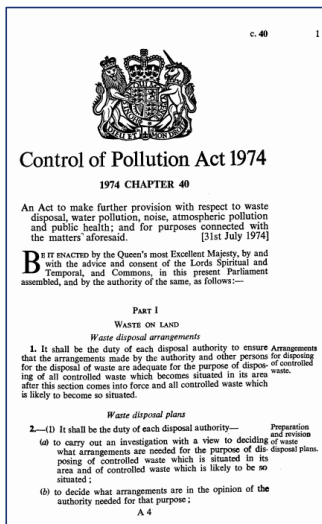
- Undertakings & Assurances - commitments by the Promoter to Parliament or beneficiary of commitment.
- The Register of Undertakings & Assurances is published on Royal Assent, however drafts are published periodically during the Hybrid Bill Process.
- Process for reporting a possible non-compliance is published on the gov.uk website.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052448/How_to_report_a_possible_noncompliance_with_an_Undertaking_or_Assurance_final_2022.pdf

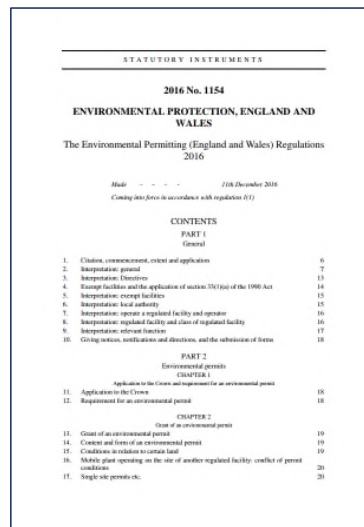
HS2 Please consult the change log for any specific details on amendments to the register				Phase 2b (Crewe - Manchester) Draft Register of Undertakings and Assurances v. 1.2						
U&A ref id	Sections	Petition no (where relevant)	Beneficiary (to whom)	U&A Text (where relevant)	Subject	Reference	Date issued	Type	Location of U&A	District / Borough / Unitary Authority
Section A: undertakings and assurances that have general application										
Series A Information Papers: Overview										
Series B Information Papers: Understanding the hybrid Bill										
A1	N/A	N/A	General	4.1 Following Royal Assent to the Bill, a nominated undertaker is expected to be appointed to construct and maintain the Proposed Scheme. Any nominated undertaker will be contractually obliged to comply with all relevant undertakings and assurances made by the Promoter in regard to construction and operation of the Proposed Scheme.	Compliance with undertakings and assurances	Paragraph 4.1 Paper B5: Compliance with undertakings and assurances Version 1	24/01/2022	Assurance	Routewide	Routewide
Series C Information Papers: Property and compensation										
A3	N/A	N/A	General	4.2 During the passage of the Bill and following Royal Assent, the Secretary of State will undertake a continuing communications exercise with the owners and occupiers of property that is expected to be subject to compulsory acquisition for the Proposed Scheme. 4.3 As a minimum, this communications exercise will include correspondence sent to property owners and occupiers, at a stage when the Proposed Scheme has reached an appropriate level of detailed design, giving them: •an indication of whether the property which they own or occupy is likely to be required, and if only a part of the property is likely to be required, which part; and •the best estimate available of the date on which such property is likely to be required.	Continuing Communication	Paragraph 4.2 - 4.3 Paper C1: Information for property owners Version 1	24/01/2022	Assurance	Routewide	Routewide
Controls within the Bill				Controls outside of the Bill				Existing legislation		

Existing Legislation

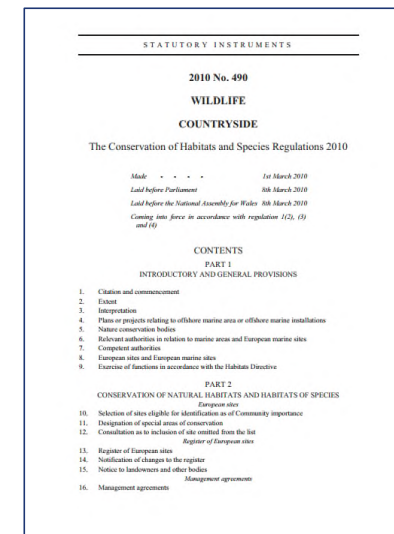
Unless legislation is disapplied or modified by the Bill it will continue to apply as normal to the design and construction of the Proposed Scheme.



Section 61 consent under Control of Pollution Act 1974



The Environmental Permitting (England and Wales) Regulations 2016 for waste permitting



Licences for protected species (issued under Conservation of Habitats and Species Regulations 2017)

Controls within the Bill

Controls outside of the Bill

Existing legislation

Habitats Regulations Assessments

- A number of habitats designated as Special Protection Areas (SPA) or Special Area of Conservations (SAC) are potentially affected by the Proposed Scheme. As a result special considerations attach under the Conservation of Habitats and Species Regulations 2017.
- The Regulations require the 'competent authority' for any plan or project that may affect the conservation status and integrity of these designations either alone or in combination with other projects to carry out appropriate assessment.
- In respect of the Phase 2b Bill, for these sites it is Parliament that is the competent authority and the select committee has been instructed to carry out any necessary appropriate assessments.
- Where the potential for likely significant effects on these sites cannot be excluded, the Promoter will produce a report to inform and assist Parliament in complying with its obligations under the Habitats Regulations on appropriate assessment.

HS2's Environmental Policy & Vision

HS2 Environmental Policy Objectives



HS2 Environmental Sustainability Vision



Our vision for cutting carbon emissions



Zero carbon electricity powers the dedicated HS2 network



Carbon emissions from construction removed or offset from 2035



HS2 Ltd net zero from 2025

- HS2 trains, stations, depots and rail infrastructure will use zero carbon energy
- 50% cut in emissions from concrete and steel by 2030
- 50% cut in all emissions by 2030
- 11% reduction in HGV emissions by 2027
- Contracts awarded to net-zero committed suppliers from 2022
- First diesel-free works site in 2022 – and all sites by 2029
- Net zero emissions from heating and powering our offices – and running our vehicles – by 2025



Seek to achieve a 10% net gain in biodiversity on Phase 2b



Secure biodiversity gains on Phase One and Phase 2a, moving beyond no net loss

- Planting seven million trees and shrubs for the Green Corridor along Phase One
- £7 million funding to plant new woodlands and improve existing woodlands along Phase One and 2a
- Minimising the loss of ancient woodlands – and the land needed for HS2
- £45 million earmarked for funds including local environment projects
- £2 million to enhance biodiversity on Phase 2a
- Managing, monitoring and maintaining new habitats for at least 30 years
- Supporting innovations in nature recovery and the way biodiversity is monitored
- Developing route-wide partnerships to boost biodiversity gains

Our vision for boosting nature recovery

Biodiversity Net Gain

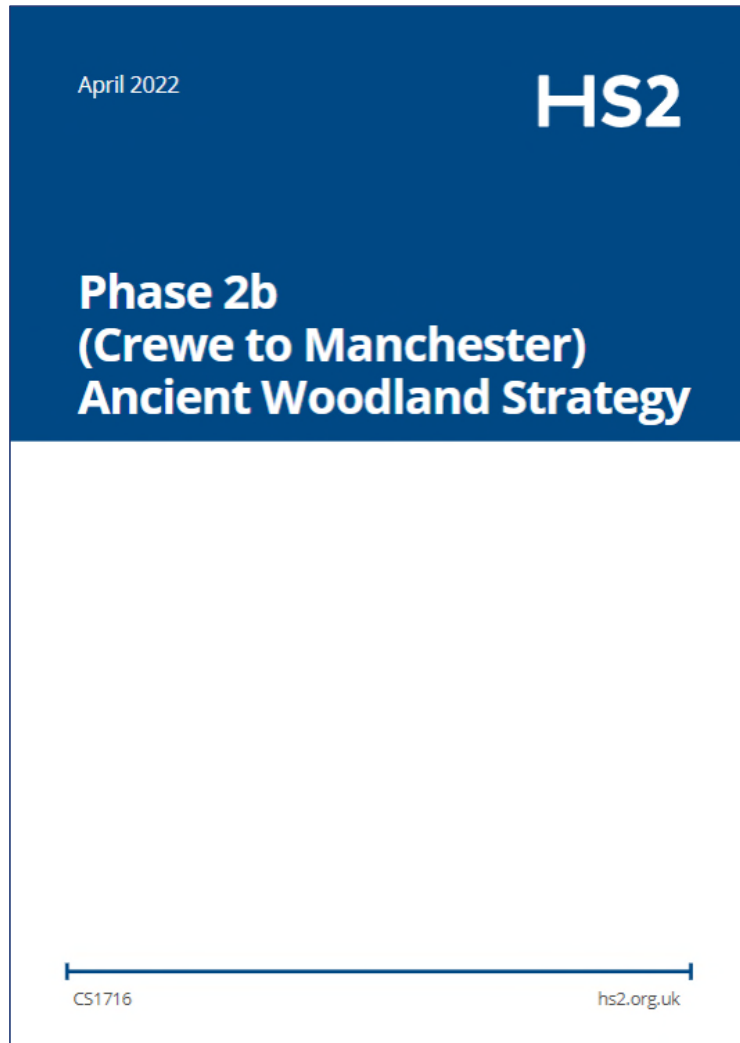
IP E2



- The HS2 Environmental Sustainability Vision **seeks to achieve a 10% net gain in biodiversity for replaceable habitats** on Phase 2b.
- The HS2 Environmental Policy **seeks to achieve gains through partnership working.**
- HS2 are developing a **Biodiversity Action Plan** for publication later in 2023 to show how biodiversity gains can be achieved route-wide including 10% gains for Phase 2b.

Ancient Woodland Strategy

IP E2



The design development of the Bill design has aimed to minimise the impact on Ancient Woodland. Loss of ancient woodland has been unavoidable in 5.7ha (14 acres) across 18 Ancient Woodlands.

Compensation measures include:

- 40.9ha (101 acres) of new woodland planting;
- 5.7ha (14 acres) of ancient woodland soils to be translocated
- £1.2 million Phase 2b allocation for the Woodland Fund to deliver ancient woodland compensation in addition to those set out in the Bill

During detailed design and construction, efforts will continue to seek to avoid or further reduce the impacts on ancient woodland.

HS2 Phase One Woodland Fund

The Forestry Commission has managed the allocation of the first £1.4 million of the Phase One Woodland Fund. As of October 2022, it has delivered 131ha (324 acres) of new woodland creation and 71ha (175 acres) of restoration of Plantations on Ancient Woodland Sites (PAWS).

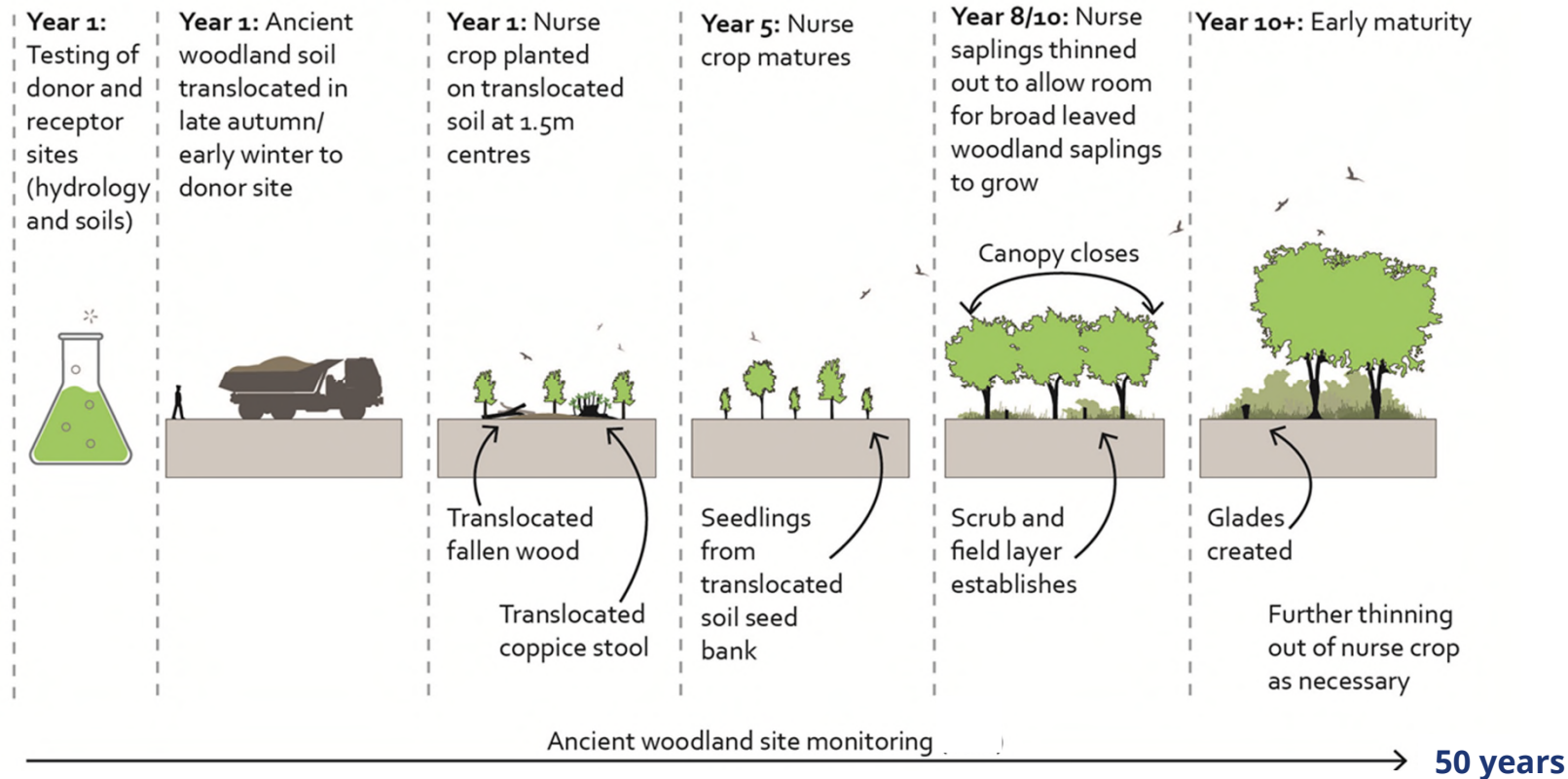


South Cubbington Wood habitat creation site



Finham Brook habitat creation site

Ancient Woodland Compensation Planting



Phase 2b Funds

The Promoter has provided funding for a number of schemes that have the potential to deliver benefits to local communities and environment in addition to those proposed within the Bill. The following Funds have been announced since the Phase 2b Bill was deposited:

- £10 million Phase 2b allocation for the CEF & BLEF (Community and Environment Fund & Business and Local Economy Fund)
- £1.2 million Phase 2b allocation for the Woodland Fund to deliver ancient woodland compensation in addition to those set out in the Bill

CEF & BLEF aim to:

- enhance community facilities, support health and wellbeing activities, improve access to the countryside and conserve the natural environment along the line of route.
- support local economies in areas where businesses collectively may experience disruption from the construction of HS2.
- leverage other investment into projects through match funding contributions from local authorities.

CEF and BLEF

Phase One (£40 million)

As of February 2023, 225 projects worth £13m have been approved, these include:

- 5 CEF Strategic projects
- 7 BLEF projects
- 213 CEF Local projects



Phase 2a (£5 million)

As of February 2023, 6 projects worth £139,000 have been approved, these include:

- 6 CEF Local projects



HS2 Green Corridor

1. Minimise and Compensate for the environmental impact of HS2

- 1 Creating habitats
- 2 Roads and public rights of way
- 3 Landscape planting and earthworks
- 4 Screen planting
- 5 Green bridges, underpasses and viaducts

2. Support our neighbours to improve the local environment

- 6 Improving watercourses
- 7 Woodland planting and restoration
- 8 Ecology and biodiversity
- 9 Historic environment
- 10 Public space and connecting people

